1885MNRAS..46...60.

Observations of the Biela Comet Meteors made at the Royal Observatory, Greenwich.

(Communicated by the Astronomer Royal.)

	Greenwich Mean Solar Time Astronomical.	Number of Meteors seen by F.	Number of Meteors seen by L.	Number per minute seen by F.	Number per minute seen by L.	State of the sky.
1885. Nov. 27	h 5½	—	—	—	—	Cloudy; no meteors seen.
	6	—	—	—	—	Sky nearly cloudless; meteors seen in considerable numbers, and continued to be seen until the commencement of counting at 6ʰ 18ᵐ
	h m h m 6 18 to 6 37	626	—	32·9	—	
	6 37 6 47	—	200	—	20·0	
	6 37 6 49	449	—	37·4	—	
	6 49 6 58	—	100	—	11·1	
	6 51 6 59	109	—	13·6	—	
	6 58 7 4	10	—	1·7	—	
	7 5 7 15	—	13	—	1·3	Clouds appeared shortly before 7ʰ; sky nearly covered at 7ʰ.
	7 30	—	—	—	—	Several bright meteors seen through thin clouds.

1885MNRAS..46...60.

Greenwich Mean Solar Time Astronomical. 1885.	h m		h m	Number of Meteors seen by F.	Number of Meteors seen by L.	Number per minute seen by F.	Number per minute seen by L.	State of the sky.
Nov. 27	7 52	to	7 55	42	27	14·0	9·0	Partially cloudy; clouds variable in amonnt.
	7 55		8 2	91	101	13·0	14·4	
	8 2		8 7	66	37	13·2	7·4	
	8 12			—	—	—	—	Sky nearly covered; meteors still seen through small breaks and thin clouds.
	8 12		8 22	—	—	—	—	Meteors frequently seen through small breaks in the clouds.
	8 27		8 32		—	12·4	—	Seen chiefly in east and east-south-east.
	8 32		8 37	38	—	7·6	—	Seen chiefly in east and east-south-east; light clouds prevalent.
	8 37		8 52	—	—	—	—	Sky generally covered.
	8 57		9 2	29	—	5·8	—	Partially cloudy.
	9 2		9 7	19	—	3·8	—	„ „
	9 7		9 12	30	—	6·0	—	„ „
	9 12		9 17	32	43	6·4	8·6	Less cloud now.
	9 17		9 22	53	42	10·6	8·4	Few light clouds.
	9 22		9 27	55	54	11·0	10·8	„ „
	9 27		9 32	36	43	7·2	8·6	Cloudy in north and north-west.

1885MNRAS..46...60.

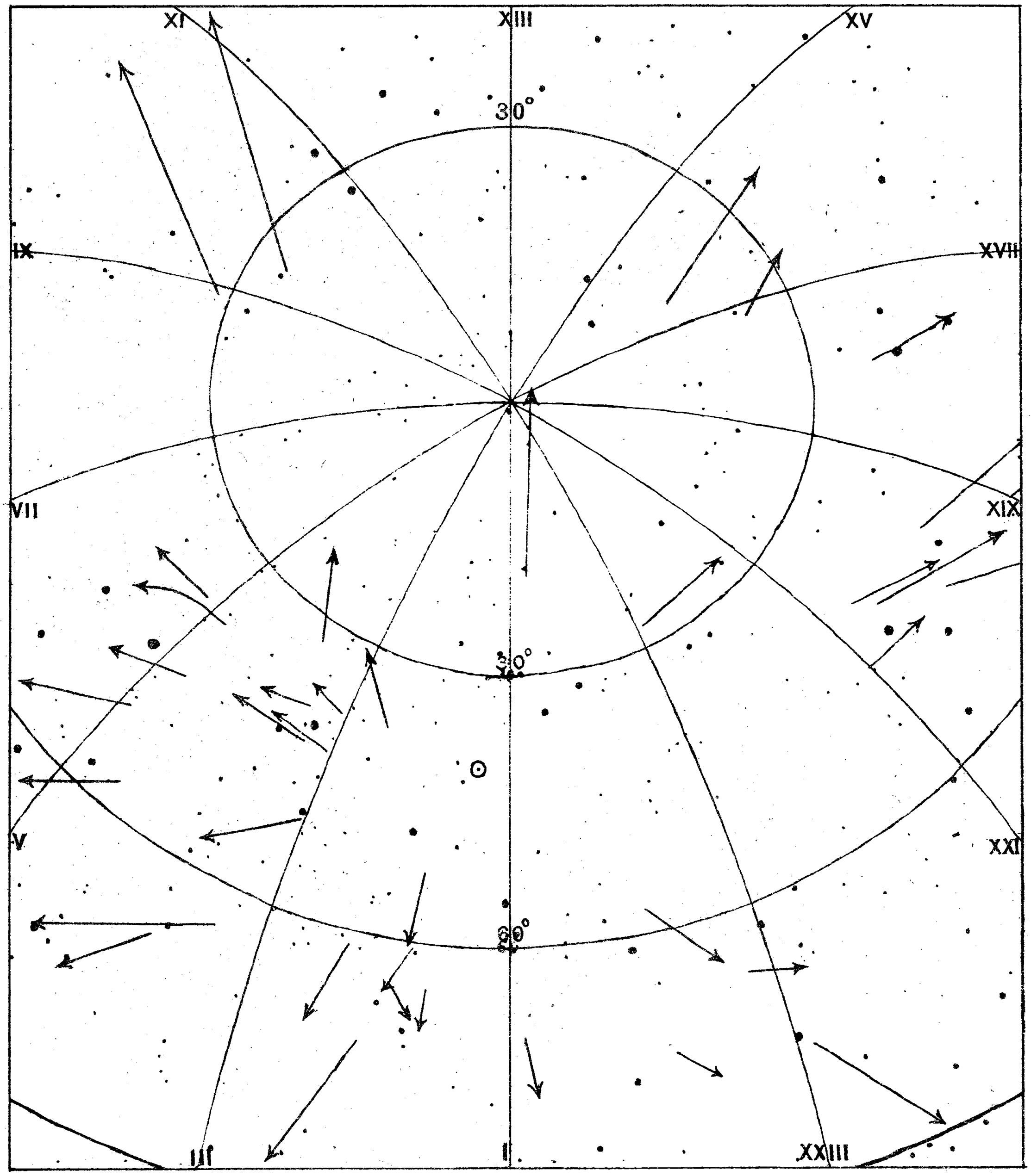
Greenwich Mean Solar Time Astronomical.				Number of Meteors seen by		Number per m seen by		State of the sky.
				F.	L.	F.	L.	
1885.	h m		h m					
Nov. 27	9 32	to	9 37	40	47	8·0	9·4	Cloudy in north and north-west; nearly clear in south.
	9 37		9 42	28	—	5·6	—	,, ,, ,, ,,
	9 42		9 47	13	28	2·6	5·6	Partially cloudy.
	9 52		9 57	4	24	0·8	4·8	Cloudy in north.
	9 57		10 2	3	5	0·6	1·0	Cloudy.
	10 2		10 7	1	1	0·2	0·2	Nearly covered.
	10 7		10 12	1	0	0·2	0·0	Cloudy in south; clouds broken in north.
	10 12		10 17	8	3	1·6	0·6	Cloudy in north and south.
	10 17		10 22	11	26	2·2	5·2	Cloudy in north; clearer in south.
	10 22		10 27	13	16	2·6	3·2	Light cloud in north.
	10 27		10 32	10	12	2·0	2·4	Cloudy in north and east.
	10 32		10 37	6	7	1·2	1·4	Cloudy.
	10 37		10 42	1	1	0·2	0·2	,,
	10 42		10 47	9	8	1·8	1·6	,,
	47		10 52	11	6	2·2	1·2	,,
	10 52		10 57	5	1	1·0	0·2	,,
	10 57		11 2	3	4	0·6	0·8	,,

1885MNRAS..46...60.

ROYAL OBSERVATORY, GREENWICH.

CHART OF METEOR TRACKS,

Observed by Mr. Nash on the night of 1885, November 27.



Spottiswoode & Co. Lith. London.

Radiant point shown thus ...... ⊙

1885MNRAS..46...60.

In the above counting the observers were placed back to back, Mr. Finch (F.) facing the northern portion of the sky, and Mr. Letchford (L.) the southern portion. The observers were careful that any meteors seen by both of them should be included in the count of one observer only.

Mr. Nash also reports that on the night of November 26 the sky was cloudy and the weather unfavourable for observation. On November 27 it remained cloudy till nearly 6^h; the sky then cleared somewhat suddenly, and meteors were found to be appearing in such numbers that steps were immediately taken by Messrs. Finch and Letchford to count them. Mr. Nash himself found that in and near the constellations *Cygnus* and *Lyra* alone, at 6^h 30^m, and again at 6^h 50^m, meteors were falling at the rate of thirty per minute; and deeming it impossible to make a complete and reliable description of the meteors then appearing, on account of their numbers, and fearing the probability of cloud intervening, he devoted his attention chiefly to the determination of the principal radiant point, which he found from numerous meteor paths of suitable brevity to be situated at R.A. 20° and Dec. N. 49°, referring to the period between 6^h and 7^h. After 7^h the sky was only clear at intervals, and forty tracks were then plotted on a prepared chart, principally from observations made between 8^h and 9^h 30^m, confirming the preceding determination of the radiant. During the principal portion of the display (6^h to 7^h) the meteors were mainly white in colour and trained, unusually short in path and slow in motion, and the number of small meteors was remarkably large. After 9^h the numbers dropped off very perceptibly, and by 11^h, when the sky clouded up completely, they had fallen to two or three per minute. On November 28, with a clear sky during the greater part of the evening, a watch was maintained by one observer for nearly two hours, and ten meteors only were seen, of which four were apparently referable to the Biela Comet radiant.

The radiant point being situated near the centre of projection of the map, the meteor paths as plotted remain practically straight lines. In one case the path was actually observed to be curved.

Royal Observatory, Greenwich:
1885, *Dec.* 17.